

# Return to Sender – The Constitution Amendment to Iroquois Gas Supplies

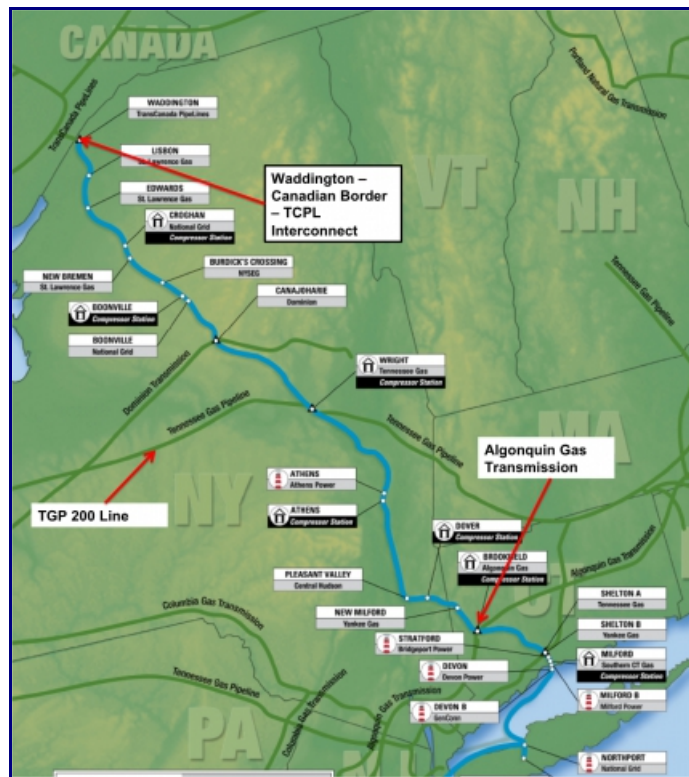
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Natural gas imports into the Northeast US from Canada have fallen to around 1 Bcf/d from 3 Bcf/d in 2008. Infrastructure projects are underway or planned to replace Canadian supplies with gas from rapidly expanding Marcellus and Utica production. US gas is already flowing into Ontario at Niagara and will flow into Dawn if one or more Utica gas export projects are built. . Meantime the proposed Constitution pipeline from the Eastern Marcellus to New York would replace Canadian supplies into New York on the Iroquois pipeline. Today we review the next pieces of the reversal puzzle.

Six months ago we introduced the possibility of natural gas flow reversals out of the Northeast in our “[The Marcellus Changes Everything](#)” blog series. The first flow reversal that we expect to see as a part of that process is imports from Canada. Canadian supplies are being replaced by gas sourced closer by in the Marcellus and increasingly the Utica shale basins in Pennsylvania, West Virginia and Ohio. Marcellus production has increased from 3.9 Bcf/d on Jan. 1, 2011 to about 10.2 Bcf/d today and is projected to grow to more than 17 Bcf/d by 2017. As these Appalachian shale supplies have found routes to market so Canadian natural gas exports to the Northeast US have fallen - from about 3Bcf/d in 2008 to around 1Bcf/d since the start of 2011. By the end of 2014, Canadian imports into the Northeast will likely drop to zero, then flip to net U.S. exports. This blog series charts the changes in infrastructure that are facilitating the reversal of Canadian supplies into the Northeast US.

In Part I (see [Return to Sender – No Such Demand](#)) we observed that supplies of Marcellus gas have started to flow back across the border into Canada at Niagara, NY – previously a major import supply point to the Northeast. We noted that demand for natural gas on the Ontario side of the Canadian border is expanding while traditional supply volumes into the region from Western Canada are declining. In Part 2 we covered infrastructure additions and expansions that are being made to facilitate increased flows of gas from the Marcellus into Ontario via Niagara both West to the Union gas trading hub at Dawn and East to the TCPL mainline and the Enbridge Greater Toronto Area (GTA) distribution system (see [Return to Sender - Flowing Marcellus Gas into Eastern Canada](#)). In Part 3 we reviewed gas supplies currently flowing into Western Ontario at the Dawn Hub from the Midwest, the Gulf Coast, and Western Canada. A new pipeline project due online in 2015 would deliver 1 Bcf/d of Utica gas into Dawn replacing some if not all of the traditional supplies. In this episode in the series we look at how the proposed Constitution pipeline will deliver gas from the Eastern Marcellus and squeeze out traditional Canadian supplies into New York and New England on the Iroquois Gas Transmission system.

The Iroquois pipeline (see map below) is a 416-mile system that runs from a TransCanada Pipeline (TCPL) interconnect in Iroquois, Ontario and extends from the U.S. Canadian border at Waddington, NY, through New York State and western Connecticut to Commack, NY; and from Huntington, NY to Hunts Point in Bronx, NY. A consortium of pipeline and shipper companies including TCPL (45 percent), Dominion Resources (25 percent), and National Grid (20 percent) own Iroquois.



Source: Iroquois Gas Transmission and RBN Energy (Click to Enlarge)

Iroquois currently receives the majority of its gas supply – up to 1.2 Bcf/d from TCPL at Waddington. Those supplies used to all originate from Western Canada but that is changing. Marcellus gas can now flow into TCPL at Niagara and then east to Iroquois (via the TCPL Eastern Mainline Expansion project that we described in [Part 2](#) of this series). At least for the moment however Iroquois represents one of the last significant flow points for Canadian gas into the Northeast US. During 2012 an average of 650 MMcf/d was imported at Waddington.

The second major receipt point for Iroquois is Brookfield, NY at the southern end of the pipeline from Algonquin Gas Transmission (AGT). The AGT pipeline is now supplied from the Marcellus (see [Gulf Coast We Don't Need Ya Anymore – Spotlight on Spectra](#)). Prior to 2009 Iroquois delivered gas into AGT at Brookfield but now receives as much as 0.3 Bcf/d. As for deliveries the primary residential and commercial markets that Iroquois serves are at the southern end of the pipeline in New York City, Long Island and Connecticut. Iroquois also delivers gas into the Tennessee Gas Pipeline (TGP) 200 Line at Wright, NY. Iroquois shipper demand for gas is expanding as New Yorkers convert from oil to natural gas for home heating and new gas fired power generation is planned to come on line in the next few years. The proposed Constitution pipeline will expand Iroquois shipper supply options with a direct link to the Eastern Marcellus.

The Constitution project is a joint venture between Williams and Cabot Oil & Gas to build a new interstate natural gas pipeline from Susquehanna County, PA in the Eastern Marcellus to Wright, NY. The proposed pipeline will provide 650 MMcf/d of natural gas capacity from the Marcellus for delivery to market on the Iroquois pipeline as well as the TGP 200 Line (see map below). The Constitution project requires Greenfield construction of 121 miles of 30-inch pipeline, a new compressor station and four meters. If the approval process proceeds smoothly the new pipeline will be in service during 2015. (It should be noted that environmental opposition that has delayed New York State's approval of hydraulic fracturing has spread to the Constitution Pipeline project meaning that it may be delayed). Constitution has signed shipping agreements with two companies for 100 percent of the pipeline

capacity. Cabot Oil and Gas has committed to transport 500 MMcf/d and Southwestern Energy to transport 150 MMcf/d.



Source: Constitution Pipeline Presentation and RBN Energy (Click to Enlarge)

The Constitution project will provide Iroquois shippers with alternative supplies to imports from Canada at Waddington. As a result the project will further reduce the flow of gas from Western Canada into the Northeast US from Ontario. The Western Canadian supplies that traditionally fed Waddington are themselves being replaced by Marcellus gas from Niagara or will be replaced by Utica gas supplied once either NEXUS or an alternative project in to Dawn are complete. The result is that Western Canadian gas supplies are retreating North and East into Canada as Appalachian supplies take their place.

Although there is inevitability about Marcellus and Utica gas replacing Canadian supplies it should be recognized that the process of reversing gas flows will not be a smooth ride. For example, in the Northeast US, the process has been complicated by increased demand for natural gas spurred on by low prices relative to other fuels. In 2012 we saw a significant increase in natural gas fired power burn as the cost of generating electricity with gas fell below the equivalent coal generation cost. In New England that led to natural gas shortages and price spikes as reliance on natural gas for power supplies collided with a surge in demand for heating during frigid weather. Adequate new supplies of gas from the Marcellus will not be available to alleviate New England supply constraints until at least 2016 (see [The Mighty Algonquin](#)).

Northeast US natural gas demand is highly seasonal and providing adequate supplies on cold winter days remains a complex logistics challenge even with new pipeline access to Marcellus gas. Access to Canadian supplies and storage capacity will therefore continue to be a key part of the supply solution for some time to come.

The Constitution Pipeline will be one of the most important infrastructure projects required to complete the re-plumbing of Northeast US natural gas supplies to accommodate Marcellus production. Once Iroquois can receive supplies from the Eastern Marcellus via Constitution the market for Canadian gas in the Northeast US will be almost extinct. The Marcellus and Utica will instead become the main sources of supply into Ontario and Eastern Canada. Nevertheless the highly seasonal nature of Northeast demand and new demand from power generation mean that maintaining the flexibility to

access traditional supplies from Canada when needed will make the transition to Marcellus supplies smoother.

In the next episode of this series we'll look at another alternative for moving Utica gas into Dawn. This is TransCanada's Lebanon Lateral (Reversal) Project to bring gas from other regional pipeline systems up to the Dawn hub.